



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/575,599	05/22/2000	Adam Thier	11553-008001	1171

28863 7590 09/24/2003
SHUMAKER & SIEFFERT, P. A.
8425 SEASONS PARKWAY
SUITE 105
ST. PAUL, MN 55125

EXAMINER

BOYCE, ANDRE D

ART UNIT	PAPER NUMBER
----------	--------------

3623

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/575,599

Applicant(s)

THIER, ADAM

Examiner

Andre Boyce

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 and 44-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 and 44-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Final Office action is in response to Applicant's amendment filed June 30, 2003. Claim 43 has been cancelled. Claims 1, 7-9, 11, 12, 17, 22, 23, 26, 38, 40, 41, and 45 have been amended. Claims 49-51 have been added. Claims 1-42 and 44-51 are pending. Claim 16 has been designated by Applicant as amended, however the Examiner doesn't see any changes that have been made to the claim. As a result, the claim will be examined as submitted.
2. The previously pending rejections to claims 10, 22, 23, 26, 40, 41, and 45 under 35 USC § 112 have been withdrawn.

The previously pending objections to claims 39 and 48, as seen in Paper # 8, as being duplicate claims using different verbiage, remain since they were not addressed by Applicant.
3. Applicant's arguments filed June 30, 2003 have been fully considered but they are not persuasive, and any changes made to the rejections are a result of Applicant's amendments to the claims.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

5. Claims 1-3, 5-8, 10-13, 15, 16, 25-29, and 31-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Johnson et al (USPN 6,067,525).

As per claim 1, Johnson et al discloses storing in a database data (database 116, see figure 10B) defining a mathematical model (data and formula matrix, see column 26, lines 15-18) having a plurality of related objects that represent business opportunities and conditions associated with achieving the business opportunities, (lead generation and sales information, see column 4, lines 35-40) in a database (database 116); receiving input data from a plurality of users (salesperson), wherein the input data indicates a status (status of lead) of at least one of the conditions (sales status and customer buying habits) associated with one of the business opportunities (sales lead); and generating a probability set indicating the probability of successfully achieving the business opportunities as a function of the input data and the mathematical model (probability of closing the sale, see column 21, lines 20-23 and column 26, lines 15-18).

As per claims 2 and 3, Johnson et al discloses receiving data from a sales organization via a packet-based network (web site module 304, see Figure 3).

As per claim 5, Johnson et al discloses receiving input data from a web browser accessing a web server (web site module 304, see Figure 3).

As per claim 6, Johnson et al discloses accessing a sales force automation program to extract a list of customers and corresponding contacts (customer information via lead generation component 102, see column 4, lines 20-23).

As per claim 7, Johnson et al discloses the objects of the mathematical model (data and formula matrix, see column 26, lines 15-18), comprise a set of business opportunity objects that are each interconnected by defined relationships with a set of corresponding condition objects. Interconnected relationships are set up via the data and formula matrix in order to calculate the probabilities of closing a sale, based upon data stored in database 116 (see figure 10B).

As per claim 8, Johnson et al discloses analyzing the mathematical model with a statistical engine (inference engine, see column 33, lines 63-66).

As per claim 10, Johnson et al discloses adaptively adjusting the model in response to the input received from the users (expert system dynamically alters the rules based upon input, see column 33, lines 44-47).

As per claim 11, Johnson et al discloses generating a sales plan that prioritizes the business opportunities as a function of the probability set (customization of sales process, via consideration for both sales status and customer buying habits, see column 21, lines 18-23).

As per claim 12, Johnson et al discloses generating an estimated revenue report as a function of the probability set (forecasting based upon possible sales leads, see column 21, lines 30-36).

As per claim 13, Johnson et al discloses a subset of the conditions represents activities performed by a sales organization (salesperson support system 100).

As per claim 15, Johnson et al discloses a sales opportunity having a target customer (lead).

As per claim 16, Johnson et al discloses the conditions including a salesperson.

Claims 25-29, and 31-34 are rejected based upon the rejections of claims 1, 2, 6-8, and 11-14, since they are the computer-readable medium claims corresponding to the method claims.

Claim Rejections - 35 USC § 103

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al (USPN 6,067,525), in view of Arbabi et al (USPN 5,461,699).

As per claim 4, Johnson et al does not disclose receiving input data from a personal digital assistant (PDA). Arbabi et al discloses a neural network used to generate a forecast embodied on a PDA (see column 15, lines 28-32). Both Johnson et al and Arbabi et al are concerned with effective sales forecasting, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a PDA in Johnson et al, as seen in Arbabi et al, as an efficient means of entering data into the Johnson et al sales force automation system, thus making the system more flexible.

7. Claims 9, 14, 17-24, 30, 35-42, and 44-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al (USPN 6,067,525), in view of Lazarus et al (USPN 6,430,539).

As per claims 9 and 18, Johnson et al does not disclose the mathematical model is a Bayesian model, and further wherein generating the probability set includes

applying Bayesian statistical analysis to generate the probability set. Lazarus et al discloses the Bayesian model as a preferred algorithm to estimate probabilities (see column 30, lines 56-58). Both Johnson and Lazarus are concerned with the effective analysis of consumer behavior, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include applying Bayesian statistical analysis to generate the probability set in Johnson, as seen in Lazarus, as a further means of calculating probability sets, thus making the Johnson method more robust.

As per claim 14, Johnson et al does not disclose a subset of the conditions characterize a technology infrastructure of a target customer of the business opportunity. Lazarus et al disclose segmenting merchants based upon technology requirements (see column 8, lines 63-65). Both Johnson and Lazarus are concerned with the effective analysis of consumer behavior, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a condition being a technology infrastructure of a target customer in Johnson, as seen in Lazarus, thereby defining a specific type of customer the Johnson sales system can focus on, thus making the method more effective.

As per claim 17, Johnson et al discloses storing a mathematical model (data and formula matrix) in a database, wherein the model includes a plurality of objects representing business opportunities (sales leads) and associated conditions for achieving the business opportunities (sales process); receiving input data from a sales organization indicating a status of at least one condition (sales status and

customer buying habits) associated with one of the business opportunities (status of the lead); and storing a first set of probabilities received from a user representing estimated probabilities for achieving the opportunities (probability of closing the sale, stored in sales process tool 1210 see column 21, lines 20-23 and column 26, lines 15-18).

Johnson et al does not disclose calculating a second set of probabilities as a function of the input data, the mathematical model, and the first set of probabilities, wherein second set of probabilities indicate the probability of successfully achieving the business opportunities. Lazarus et al discloses probability theory (conditional probability), including calculating a second probability as a function of a plurality of probabilities, based upon specific input data (i.e., merchant co-occurrence in customer profile, see column 23, lines 18-35) to calculate the probability of success. Both Johnson and Lazarus are concerned with the effective analysis of consumer behavior, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include calculating a second set of probabilities (conditional probability) as a function of the input data, the mathematical model, and the first set of probabilities in Johnson et al, as seen in Lazarus et al, thereby providing a further method to calculate the probability of success of a sales lead in Johnson et al, thus making the system more flexible and robust.

As per claim 19, Johnson et al discloses adaptively adjusting the first set of probabilities in response to either the input received from the users or the second set

of probabilities (i.e., automatically calculate the probability based upon considering both the sales status and customer's buying status).

As per claim 20, Johnson et al discloses receiving input data from a web browser accessing a web server over the Internet (web site module 304, see Figure 3).

As per claim 21, Johnson et al discloses accessing a sales force automation program to extract a list of customers and corresponding contacts (customer information via lead generation component 102, see column 4, lines 20-23).

As per claims 22 and 23, Johnson et al discloses generating a sales plan and a revenue report as a function of the probability of closing a sale (see column 21, lines 20-23 and 31-34). Johnson et al does not explicitly disclose the generation based upon a second set of probabilities. Lazarus et al discloses probability theory (conditional probability), including calculating a second probability as a function of a plurality of probabilities, based upon specific input data (i.e., merchant co-occurrence in customer profile, see column 23, lines 18-35) to calculate the probability of success. Both Johnson and Lazarus are concerned with the effective analysis of consumer behavior, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include generating a sales plan and revenue report as a function of the second set of probabilities (conditional probability) as a function of the input data in Johnson et al, as seen in Lazarus et al, thereby providing a further method to calculate the probability of success of a sales lead in Johnson et al, thus making the system more flexible and robust.

As per claim 24, Johnson et al discloses a subset of the conditions represents activities performed by a sales organization (salesperson support system 100).

Claim 30 is rejected based upon the rejection of claim 9, since it is the computer-readable medium claim corresponding to the method claim.

Claims 35-37 are rejected based upon the rejection of claim 17, since they are the computer-readable medium claims corresponding to the method claim.

Claims 38-42 and 44-48 are rejected based upon the rejection of claims 17-19, and 21-24, since they are the system claims corresponding to the method claims.

As per claim 49, Johnson et al discloses receiving input from a model engineer (data management personnel) defining a model having a plurality of objects interconnected by defined relationships, wherein the objects represent business opportunities and conditions associated with achieving the opportunities (creation of knowledge database, see column 25, lines 29-34), receiving a set of estimated probabilities for the conditions of the model from the model engineer (probabilities of closing a sales opportunities, see column 26, lines 15-18), and receiving input data from a sales organization indicating current statuses for the conditions (configuration data tool 1202).

Johnson does not explicitly disclose applying the model to compute a posterior distribution for the conditions based on both the estimated probabilities provided by the model engineer and the current statuses for the conditions, wherein a second set of probabilities indicate the probability of successfully achieving the business opportunities, and generating a revenue forecast for the business opportunities

based on the computed posterior distribution. Lazarus et al discloses probability theory (conditional probability), including calculating a second probability as a function of a plurality of probabilities, based upon specific input data (i.e., merchant co-occurrence in customer profile, see column 23, lines 18-35) to calculate the probability of success. Both Johnson and Lazarus are concerned with the effective analysis of consumer behavior, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include calculating a second set of probabilities (posterior distribution) as a function of the input data, the mathematical model, and the first set of probabilities in Johnson et al, as seen in Lazarus et al, thereby providing a further method to calculate the probability of success of a sales lead in Johnson et al, thus making the system more flexible and robust.

As per claim 50, Johnson does not disclose $P(M|D) = P(M)[P(D|M) / P(D)]$, where data D represents the current statuses for the conditions, $P(M|D)$ represents the posterior distribution, $P(M)$ represents the model, and $P(D|M)$ is the likelihood of the data D in light of the model M and represents estimate probabilities. However, the Examiner takes Official notice that $P(M|D)$ is simply the conditional probability of (M|D) which is old and well known theory of statistics. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include calculating a second set of probabilities (posterior distribution) using the data and initial probability model seen in Johnson, providing a further method to calculate

the probability of success of a sales lead in Johnson et al, thus making the system more flexible and robust.

As per claim 51, Johnson discloses presenting a user interface with which the model engineer interacts to graphically define the model including the objects and interconnecting relationships representing the business opportunities and conditions associated with achieving the business opportunities (data management personnel, see column 25, lines 56-59).

Response to Arguments

8. In the Remarks, with respect to claim 1, Applicant argues that Johnson fails to teach or suggest storing in a database data that defines a mathematical model having a plurality of related objects that represent business opportunities and conditions associated with achieving the business opportunities. The Examiner respectfully disagrees with this assertion and submits that Johnson teaches a data and formula matrix used to calculate the probability of closing the sale, as seen in the rejection above. The data and *formula* (i.e., mathematical model) matrix receives data from database 116, including sales information in conjunction with lead generation data, thereby determining the value of the opportunity.

With respect to claims 1 and 25, Applicant argues that Johnson fails to teach or suggest generating a probability set indicating the probability of successfully achieving the business opportunity as a function of the input data and mathematical model. The Examiner respectfully disagrees and submits that Johnson teaches a

data and formula matrix used to calculate the probability of closing a sales opportunity. Further, there seems to be some confusion with Johnson's use of the terminology "probability of closing the sale". This term has nothing to do with "closed sales or sales that have been identified as closing to generate forecast reports", as Applicant asserts. The term simply means the probability to successfully achieving the business opportunity (i.e. closing the sale with a customer), as seen in Applicant's claim language. This terminology is old and well known in the sales/marketing art.

With respect to claims 9 and 18, Johnson in view of Lazarus indeed discloses all the limitations, as seen in the above rejection, including applying Bayesian statistical analysis, which is not only disclosed by Lazarus, but also is old and well known in the statistical art. By clarifying the of "probability of closing a sale" as seen above, the modification proposed by the Examiner indeed teaches Applicant's invention.

With respect to claim 17, as seen in the above rejection, Johnson discloses a data and formula matrix used to calculate the probability of closing the sale and the modification proposed by the Examiner indeed teaches Applicant's invention. Further, Lazarus et al discloses probability theory (i.e., conditional probability), including calculating a second probability as a function of a plurality of probabilities, based upon specific input data (i.e., merchant co-occurrence in customer profile, see column 23, lines 18-35) to calculate the probability of success. Modifying Johnson to include the use of the probability theory, as seen in Lazarus, indeed results in calculating a second set of probabilities as a function of the input data, the

Art Unit: 3623

mathematical model, and the first set of probabilities, all of which are taught by Johnson.

Further, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both Johnson and Lazarus are concerned with the effective analysis of consumer behavior.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 3623

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Boyce whose telephone number is (703) 305-1867. The examiner can normally be reached on 9:30-6pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (703) 305-9643. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


adb


TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600